

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



10/528206



(43) International Publication Date
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number
WO 2004/027309 A1

(51) International Patent Classification⁷: F16M 11/14

Peter [GB/GB]; Waylands House, Approach Road, Tatsfield, Westerham, Surrey TN16 2JT (GB).

(21) International Application Number:
PCT/GB2003/004013

(74) Agent: LUCAS, Brian, Ronald; Lucas & Co., 135 Westhall Road, Warlingham, Surrey CR6 9HJ (GB).

(22) International Filing Date:
17 September 2003 (17.09.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0221624.0 18 September 2002 (18.09.2002) GB

(71) Applicant (*for all designated States except US*): B-TECH INTERNATIONAL LIMITED [GB/GB]; 4 Meridian Centre, Vulcan Way, New Addington, Croydon, Surrey CR0 9UG (GB).

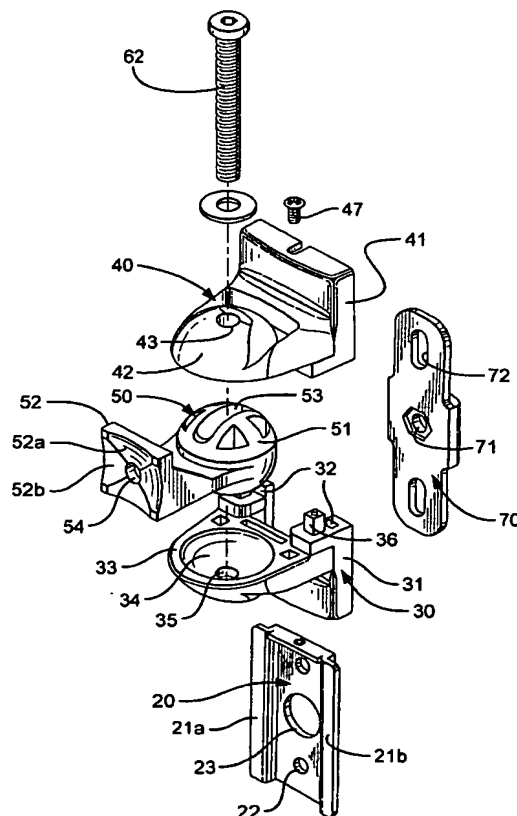
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): BENNETT, Martin,

[Continued on next page]

(54) Title: LOUDSPEAKER WALL BRACKET



(57) Abstract: A wall bracket for a loudspeaker or the like, particularly for use in the home theatre context, and comprising a wall plate (20) arranged for attachment to a wall, the plate having at least a pair of raised, laterally outward projecting flanges (21a, 21b); a bracket base arranged for engaging with the flanges and being thereby held to the wall plate, the bracket base having two substantially similar opposing parts (30, 40) each incorporating a substantially hemispherical socket (34); and a bracket mount (50) arranged for attachment to the loudspeaker etc, the bracket mount incorporating a ball member (51) adapted to be gripped between the bracket base sockets in a variety of configurations.

WO 2004/027309 A1

WO 04/027309 A1



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*

LOUDSPEAKER WALL BRACKET

- 5 The present invention relates to wall brackets for loudspeakers and the like.

Wall brackets are well known for loudspeakers and typically comprise a plate for attachment to the wall and a ball and a socket arrangement for mounting the loudspeaker, whereby the latter can be pointed in a desired direction.

10

According to the present invention a wall bracket for a loudspeaker or the like comprises:

a wall plate arranged for attachment to a wall, the plate having at least a pair of raised, laterally projecting flanges;

- 15 a bracket base arranged for engaging with the flanges and being thereby held to the wall plate; and

a bracket mount arranged for attachment to a loudspeaker or the like; there being a ball and socket arrangement between the bracket base and the bracket mount whereby the bracket mount may be locked to the bracket base

- 20 in a variety of configurations.

The invention provides a number of advantages over known such wall brackets. One is aesthetic, in that screws or the like holding the bracket to the wall need not be visible. Another is that neither the bracket configuration nor the wall plate have to be disturbed when the loudspeaker etc is removed from the wall.

25

For aesthetic and simplicity considerations it is preferred that the flanges project outwards of the wall plate rather than inwards. In a preferred embodiment of the invention the engagement of the bracket base with the projecting flanges is accomplished by sliding the bracket base onto the flanges, which may be in parallel or convergent array. However the bracket base may be arranged to clip over one of the flanges and a grub screw in the

30

- 2 -

bracket base, preferably at the top thereof, used to engage behind an opposing flange.

Another advantage conferred by the projecting flange means of attachment is in readily permitting the use of a substantially two part bracket base. Each of the two parts of the bracket base may include a socket forming part of the said ball and socket arrangement. By this means the ball may be interposed between two substantially hemispherical sockets, and held therebetween in a vice-like manner. Preferably the two parts of the bracket base have interfitting members, for example pegs and associated holes whereby the two parts of the bracket base can be manually held together, with the ball in place, while the wall bracket is assembled. This assembly can then be mounted on the wall plate. A grub screw may be fitted in the bracket base to lock it to the wall plate.

Ideally the ball is pierced in the longitudinal direction, as are the sockets, and the bracket is clamped together by a bolt passing through the two sockets and the ball. The arrangement is preferably such as still to permit the ball to be held so that the loudspeaker etc may have a variety of inclinations with respect to the wall bracket. For example the hole through the ball may be enlarged, at least towards the surface of the ball. The bolt fixing may be an external nut or one nestling within or moulded within one of the two parts of the bracket base. The bolt may have an enlarged head to enable it to be finger tightened. On the other hand the bolt head may interfit a bracket base part or be moulded therewith and the nut may be large enough for finger tightening.

The bracket mount may have a concave mounting surface and will usually incorporate holes or slots for attachment of the loudspeaker etc. Ideally the bracket mount has a mounting surface, which comprises two saddles, on a normal to the other, in this way the mount may be aesthetically adapted for attachment to loudspeakers with curved or flat rear or side surfaces. An adapter or suite of adapters may be provided for enabling loudspeakers etc

of differing sizes and mounting provisions to be attached to the wall bracket.

It is also convenient if the wall plate has a cable management hole whereby cabling for the loudspeaker etc can be routed therethrough and possibly
5 between the two parts of the bracket base, thereby concealing the emergence thereof from the wall and indeed minimizing cable visibility generally.

The invention has been primarily conceived for use with relatively small
10 (maximum dimensions about 20cm x 15cm x 10cm) loudspeakers of the sort used in the home theatre or home cinema context. However the expressions "and the like" and "etc" in this patent specification are intended to provide cover for use of a wall bracket in accordance with the invention with such
15 other electrical/electronic items of equipment as movement detectors, cameras and video recorders and projectors, security and wall lights, and even personal computer monitors and televisions.

A particular embodiment of the present invention will now be described by way of example with reference to the accompanying drawings, of which:-

20

Figure 1 is an exploded view of a wall bracket in accordance with the invention, and

Figure 2 is an isometric view of an assembled wall bracket.

25

The wall bracket shown in the drawings comprises a wall plate 20, a lower bracket base member 30, an upper bracket base member 40, a bracket mount member 50, a bolt 60 and an adapter 70.

30 The wall plate 20 is a metal plate with two raised flanges 21a, 21b projecting laterally outwards, wall fixing holes 22, a centrally disposed cable management hole 23, and a grub screw threaded anchor hole 24.

- 4 -

The lower bracket base member 30 comprises a housing 31 incorporating grooves 32 arranged for engagement with the wall plate flanges 21a, 21b, and a jaw member 33. The jaw member 33 is integral with the housing 31 and has a substantially hemispherical socket 34 with a central hole 35 therethrough for the bolt 60. This hole 35 holds a nut (not shewn) for the bolt 60. The jaw member 33 faces longitudinally of the member 30. Pins 36 in the housing are arranged to engage in holes (not shewn) in the lower bracket base member 40.

10 The upper bracket base member 40 comprises a housing 41 incorporating grooves (not shewn) similar to those 32 in the member 30, and a jaw member 42 integral with the housing 41. The jaw member includes a substantially hemispherical socket matching the socket 34 and which in use will oppose and co-operate with the socket 34. There is a central hole 43
15 through the socket for the bolt 60. There is a grub screw (47) centrally in the upper face of the housing 41, for engaging with the anchor hole 24 in the wall plate 20. The housing 41 extends a short way upward of the jaw member 42, to allow the cabling to be routed therethrough.

20 The bracket mount member 50 comprises a mounting ball 51 and a bracket 52 integral with the ball 51. The ball 51 is of similar radius to the sockets in the base members 30 and 40 and is arranged for being captured and gripped therebetween. The ball 51 has a slot 53 therethrough for the bolt 60. The slot 53 permits the member 50 to be held in a variety of configurations with
25 respect to the members 30, 40. The bracket 52 is formed with two saddles 52a, 52b normal one to the other, and a central hole 54 for the attachment of a loudspeaker (not shewn).

The adapter 70 is a plate with a central hole 71 for attachment thereof to the
30 bracket 52 at the hole 54 and two outlying holes 72 for attachment to a loudspeaker or the like.

For using the wall bracket shewn in the drawings the wall plate 20 is attached

- 5 -

to a wall in a desired location and cabling, terminating in a plug/socket, is brought through the central hole 23. The loudspeaker is offered to and attached to the bracket 52 via the hole 54. The lower bracket member 30 is slid onto the grooves 21a, 21b of the wall plate 20 and while held in position, perhaps via the grub screw, the ball 51, nestling in the socket of the lower bracket base member 40, is offered to the lower socket 34, the lower base member 30 being slid onto the grooves 21a, 21b. The bolt 60 is then passed through the jaws and the ball 51 and tightened with the loudspeaker held in the desired configuration. The electrical connection is then made.

10

The above described *modus operandi* is particularly suitable for small loudspeakers having a rounded back. Flat backed loudspeakers can be attached to the wall bracket using the adapter 70.

CLAIMS

1. A wall bracket for a loudspeaker or the like and comprising:
a wall plate arranged for attachment to a wall, the plate having at least a pair
5 of raised flanges;
a bracket base arranged for engaging with the flanges and being thereby
held to the wall plate; and
a bracket mount arranged for attachment to a loudspeaker or the like;
there being a ball and socket arrangement between the bracket base and the
10 bracket mount whereby the bracket mount may be locked to the bracket base
in a variety of configurations.
2. A wall bracket as claimed in claim 1 and wherein the flanges project
laterally of the wall plate.
15
3. A wall bracket as claimed in claim 2 and wherein the flanges project
laterally outwards.
4. A wall bracket as claimed in any one of the preceding claims and
20 wherein the bracket base is arranged for sliding over the flanges thereby to
be held to the wall.
5. A wall bracket as claimed in any one of the preceding claims and
wherein the flanges are in parallel array.
25
6. A wall bracket as claimed in claim 1 and wherein the bracket base is
arranged to clip over one of the flanges and a grub screw in the bracket base
used to engage behind an opposing flange.
- 30 7. A wall bracket as claimed in any one of the preceding claims and
wherein the bracket base is substantially in two parts.
8. A wall bracket as claimed in claim 7 and wherein each of the two

parts of the bracket base includes a socket forming part of the said ball and socket arrangement, whereby the ball may be interposed between two substantially hemispherical sockets, and held therebetween in a vice-like manner.

5

9. A wall bracket as claimed in claim 7 or claim 8 and wherein the two parts of the bracket base have interfitting members whereby the two parts of the bracket base can be manually held together, with the ball in place, while the wall bracket is assembled.

10

10. A wall bracket as claimed in any one of the preceding claims and arranged such as to permit the ball to be held so that the loudspeaker etc may have a variety of inclinations with respect to the wall bracket.

15

11. A wall bracket as claimed in any one of the preceding claims and wherein the ball is pierced in the longitudinal direction, as are the sockets, and the bracket is clamped together by a bolt passing through the two sockets and the ball.

20

12. A wall bracket as claimed in claim 11 and wherein the hole through the ball is enlarged, at least towards the surface thereof of the ball whereby the loudspeaker or the like may be held in a variety of configurations with respect to the wall.

25

13. A wall bracket as claimed in claim 11 or claim 12 and wherein the bolt has an enlarged head to enable it to be finger tightened.

30

14. A wall bracket as claimed in any one of the preceding claims and wherein the bracket mount has a concave mounting surface, whereby it is adapted for holding loudspeakers with curved or flat rear or side surfaces.

15. A wall bracket as claimed in any one of the preceding claims and wherein the bracket mount has two mounting saddles, one normal to the

other, where? it is adapted to carry loudspeakers with curved or flat rear or side surfaces.

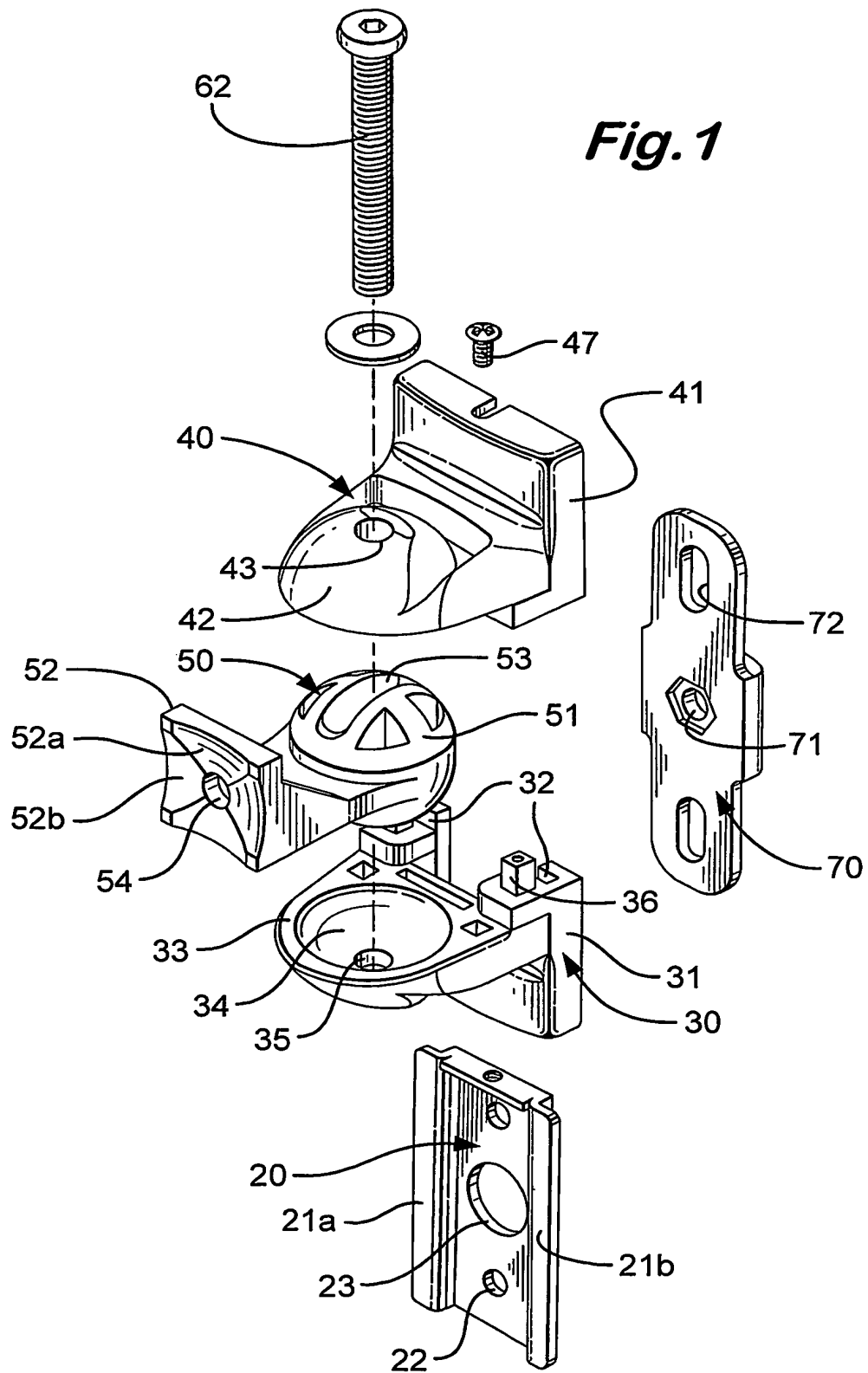
5 16. A wall bracket as claimed in any one of the preceding claims and wherein the bracket mount incorporates holes or slots for attachment of the loudspeaker etc.

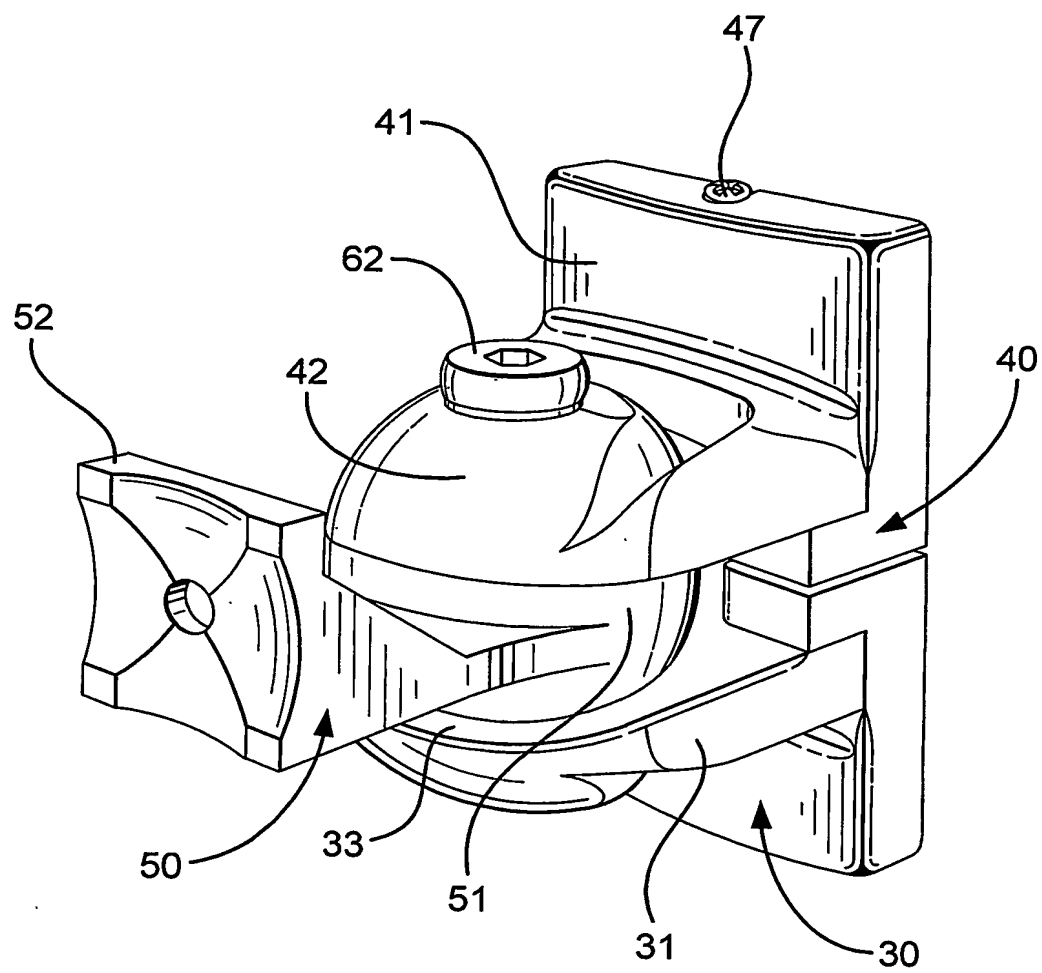
10 17. A wall bracket as claimed in any one of the preceding claims and wherein the wall plate has a cable management hole whereby cabling for the loudspeaker etc can be routed therethrough.

18. A wall bracket as claimed in any one of the preceding claims and adapted for use in a domestic context.

15 19. Use of a wall bracket according to any one of the preceding claims in a home theatre or home cinema context.

20 20. A wall bracket substantially as hereinbefore described with reference to the accompanying drawings.

Fig. 1



INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 03/04013

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F16M11/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4 730 818 A (PRICE DOUGLAS A) 15 March 1988 (1988-03-15) column 3, line 38 -column 6, line 20; figures 1-5	1-10, 16, 18-20 11-15, 17
X	US 4 036 459 A (ALEXANDER MERWIN K ET AL) 19 July 1977 (1977-07-19) column 2, line 65 -column 4, line 43; figures 1-7	1-3, 5, 10, 14-16, 18-20
A	US 1 280 013 A (J. GODDARD) page 1, line 61 -page 2, line 97; figures 1-5	1-20

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

* & * document member of the same patent family

Date of the actual completion of the international search

18 December 2003

Date of mailing of the international search report

05/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Klintebäck, D

INTERNATIONAL SEARCH REPORT

Internat
PCT/GB 03/04013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4730818	A	15-03-1988	NONE
US 4036459	A	19-07-1977	NONE
US 1280013	A		NONE